

Application Number 10/507,273
Amendment dated August 30, 2006
Response to Advisory Action mailed August 23, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 12 (cancelled).

Claim 13 (currently amended): A method for fabricating ~~the~~ diode device ~~of claim 1~~ comprising: a housing means; a first electrode attached to one end of said housing means; a second electrode attached to an opposing end of said housing means; an electrical circuit connected to said electrodes; a further pair of electrodes attached to an inner and outer face of said housing means and attached to controlling circuitry whereby a length of said housing means may be modified by a signal applied to said further pair of electrodes; and wherein said housing means is able to adjust the magnitude of a distance separating said electrodes;

comprising the steps:

- (a) contacting a first composite to one end of a tubular actuating element;
- (b) introducing an electrically conducting material to an inner surface of said composite;
- (c) contacting a second composite to the other end of the tubular actuating element, wherein said composite is a matching electrode pair precursor comprising a silicon wafer, a layer of titanium, a layer of silver and a layer of copper, such that an inner surface of said second composite is also in contact with the electrically conducting material;
- (d) sealing the contact between the first composite and the tubular element, and between the second composite and the tubular element;
- (e) separating the second composite along a boundary between two different layers and forming two matching electrodes.

Claim 14 (cancelled).

Claim 15 (original): The method of claim 13 wherein step (c) additionally comprises seating an alignment pin on said second composite into a locating hole on said first composite.

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Claim 16 (original): The method of claim 13 wherein said second composite is fabricated according to the steps:

- (a) polishing at least a region around the periphery of a silicon wafer;
- (b) depositing a first layer on said silicon wafer;
- (c) depositing a second layer on said first layer;
- (d) forming a third layer on said second layer

Claim 17 (original): The method of claim 16 wherein said first layer comprises titanium.

Claim 18 (original): The method of claim 16 wherein said second layer comprises silver.

Claim 19 (original): The method of claim 16 wherein said third layer comprises copper.

Claim 20 (original): The method of claim 19 wherein the method for forming said third layer of copper comprises electrolytic growth of copper.

Claim 21 (original): The method of claim 19 additionally comprising the step of:

- (a) attaching an alignment pin to said third layer.

Claim 22 (original): The method of claim 21 wherein said attaching step comprises:

- (a) contacting said alignment pin with said third layer;
- (b) electrolytically growing copper from said third layer around the alignment pin.

Claim 23 (original): The method of claim 13 wherein said first composite comprises molybdenum.

Claim 24 (original): The method of claim 13 wherein said electrically conducting material comprises silver paste.

Claim 25 (original): The method of claim 13 wherein said electrically conducting material comprises liquid metal.

Claim 26 (original): The method of claim 25 wherein said liquid metal comprises gallium and indium.